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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,408	02/10/2000	Frederic Serre	A32979-070337.0181	3806

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/501,408

Applicant(s)

SERRE, FREDERIC

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/5/05 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 23-40 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for precipitated silica or pyrogenic silica, does not reasonably provide enablement for any type of silica. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be "commensurately enabling [regarding the scope of the claims]" *Ex Parte Kung*, 17 USPQ2d 1545, 1547 (Bd. Pat. App. Inter. 1990). Otherwise **undue experimentation** would be involved in determining how to practice

and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of claims 23-40 can be used as claimed and whether claims 23-40 meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. Pat. App. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400, 1404 (Fed.Cir. 1988). Upon applying this test to claims 23-40, it is believed that undue experimentation **would** be required because:

(a) *The quantity of experimentation necessary* is **great** since claims 23-40 read on any type of silica such as silica gel or colloidal silica.

(b) There is **no direction or guidance presented** for making a tire comprising any type of silica such as silica gel or colloidal silica.

(c) There is an **absence of working examples** concerning making pneumatic tire comprising any type of silica such as silica gel or colloidal silica.

In light of the above factors, it is seen that undue experimentation would be necessary to make and use the invention of claims 23-40.

4. Claims 23-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 23 and claim 29 have each been amended to recite that "the amount of silica is greater than the amount of carbon black". It is the examiner's position that this phrase fails to

satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement of the cited phrase in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163.

As support for the above amendment, applicants point to Tables 1-6 of the present specification.

However, while these Tables provide support for specific amounts of silica that are greater than specific amounts of carbon black, they do not provide support for the broad recitation that that “the amount of silica is greater than the amount of carbon black” which encompasses any amount of silica that is greater than any amount of carbon black (wherein the total amount of carbon black and silica is between 15 phr and 50 phr). That is, while Tables 1 –2 provide support to recite using amount of silica that is greater than the amount of carbon black wherein silica is present in amount of 35 phr and carbon black is present in amount of 5 phr, Table 3 provides support to recite using amount of silica that is greater than the amount of carbon black wherein silica is present in amount of 25 phr and carbon black is present in amount of 5 phr, silica is present in amount of 35 and carbon black is present in amount of 5 phr, or silica is present in amount of 30 phr and carbon black is present in amount of 5 phr, and Tables 5-6 provide support to recite silica is present in amount of 30 phr and carbon black is present in amount of 15 phr, the Tables do not provide support to recite any amount of silica that is greater than any amount of carbon black, i.e. 38 phr silica and 8 phr carbon black or 20 phr silica and 19 phr carbon black.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 29-30 and 37-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Vasseur (U.S. 5,871,597) taken in view of the evidence in Chauvin (U.S. 2004/0092647).

Vasseur discloses tire comprising crown reinforcement obtained from 100 parts natural rubber, 40 phr silica having surface area of 83 m²/g, and 0.6 phr diphenylguanidine from which it is calculated that the ratio of covering agent to silica is 0.015 (0.6/40) (Table V, Test I) or comprising 100 parts natural rubber and 30 phr silica having surface area of 83 m²/g (Table V, Test J). It is well known, as evidenced by Chauvin et al. (paragraph 4), that crown reinforcement is found in the bottom zone of the tire.

In light of the above, it is clear that Vasseur anticipates the present claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (U.S. 5,871,597) in view of Takeichi et al. (U.S. 6,008,295).

The disclosure with respect to Vasseur in paragraph 6 above is incorporated here by reference.

The difference between Vasseur and the present claimed invention is the requirement in the claims of additional diene elastomer.

Takeichi et al., which is drawn to rubber compositions for tires, discloses the use of silicon or tin halide modified diene elastomer in order to produce a composition with superior fracture properties and low hysteresis loss (col.1, lines 19-22, col.2, lines 34-55, and col.6, lines 45-55).

In light of the motivation for using additional diene elastomer disclosed by Takeichi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such diene elastomer in the tire of Vasseur in order to produce tire with superior fracture properties and low hysteresis loss, and thereby arrive at the claimed invention.

9. Claims 31-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (U.S. 5,871,597) in view of Fukahori et al. (U.S. 5,844,050).

The disclosure with respect to Vasseur in paragraph 6 above is incorporated here by reference.

The difference between Vasseur and the present claimed invention is the requirement in the claims of additional diene elastomer that has been modified by branching agent such as divinylbenzene.

Fukahori et al., which is drawn to rubber composition, disclose a diene elastomer comprising a majority of cis-1,4-bonds, which is branched using divinylbenzene (col.9, lines 4-14, 32 and 46-50) in order to produce a composition with good abrasion resistance, fatigue resistance, and tensile properties (col.25, lines 26-36).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use such diene elastomer in the tire of Vasseur in order to produce tire with good abrasion resistance, fatigue resistance, and tensile properties, and thereby arrive at the claimed invention.

10. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (U.S. 5,871,597).

The disclosure with respect to Vasseur in paragraph 6 above is incorporated here by reference.

The difference between Vasseur and the present claimed invention is the requirement in the claim of ratio of covering agent to silica.

Vasseur disclose of ratio of covering agent to silica of 0.015 while present claim 40 requires ratio of covering agent to silica of 0.02.

It is apparent, however, that the instantly claimed ratio of covering agent to silica and that taught by Vasseur are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the ratio of covering agent to silica disclosed by Vasseur and the ratio disclosed in the present claims and further given the fact that no criticality is disclosed in the present invention with respect to the ratio of covering agent to silica, it therefore would have been obvious to one of ordinary skill in the art that the ratio disclosed in the present claims is but an obvious variant of the ratio disclosed in Vasseur, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

11. Claims 23-25, 29-31, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segatta et al. (U.S. 6,776,206) in view of JP 09302146.

Segatta et al. disclose tire wherein the apex, i.e. portion of the tire which is located axially to the outer side of the carcass poly turn-up, comprises composition comprising 80-97 parts natural rubber or cis 1,4-polyisoprene, 20-200 phr carbon black, 5-25 phr precipitated silica, silane coupling agent, and additional diene elastomer. It is noted, for instance, that the amount of silica, i.e. 25 phr, is greater than the amount of carbon black, i.e. 20 phr, wherein the total amount of carbon black and silica is thus 45 phr (col.1, lines 9-13 and 20-22, col.2, lines 30-41, col.3, lines 45-49, and col.3, line 66-col.4, line 6).

The difference between Segatta et al. and the present claimed invention is the requirement in the claims of the surface area of the carbon black and the surface area of the silica.

JP 09302146, which is drawn to tire, disclose the use of composition for bead filler (a reinforcing layer found axially outside the turn-up portion of the carcass and extending radially from the bead core) comprising carbon black possessing surface area of 50-150 m²/g and silica possessing surface area of 210-300 m²/g. It is disclosed that if the surface area of the carbon black is less than 50 m²/g, there is poor hardness while if the surface area is greater the 150 m²/g, there is an increase in loss tangent. Further, it is disclosed that if the surface area of the silica is less than 210 m²/g, there is poor hardness, while if the surface area is greater than 300 m²/g, the composition is difficult to manufacture (paragraphs 10-11).

In light of the motivation for using carbon black and silica with specific surface area disclosed by JP 09302146 as described above, it therefore would have been obvious to one of ordinary skill in the art to use such carbon black and silica in the apex of the tire of Segatta et al.

in order to produce tire with good hardness and low loss tangent that is easy to manufacture, and thereby arrive at the claimed invention.

12. Claims 26-27 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segatta et al. in view of JP 09302146 as applied to claims 23-25, 29-31, 35, and 37 above, and further in view of Takeichi et al. (U.S. 6,008,295).

The difference between Segatta et al. in view of JP 09302146 and the present claimed invention is the requirement in the claims of specific additional diene elastomer.

Takeichi et al., which is drawn to rubber compositions for tires, discloses the use of silicon or tin halide modified diene elastomer in order to produce a composition with superior fracture properties and low hysteresis loss (col.1, lines 19-22, col.2, lines 34-55, and col.6, lines 45-55).

In light of the motivation for using additional diene elastomer disclosed by Takeichi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such diene elastomer in the tire of Segatta et al. in order to produce tire with superior fracture properties and low hysteresis loss, and thereby arrive at the claimed invention.

13. Claims 26, 28, 32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segatta et al. in view of JP 09302146 as applied to claims 23-25, 29-31, 35, and 37 above, and further in view of Fukahori et al. (U.S. 5,844,050).

The difference between Segatta et al. in view of JP 09302146 and the present claimed invention is the requirement in the claims of additional diene elastomer that has been modified by branching agent such as divinylbenzene.

Fukahori et al., which is drawn to rubber composition, disclose a diene elastomer comprising a majority of cis-1,4-bonds, which is branched using divinylbenzene (col.9, lines 4-14, 32 and 46-50) in order to produce a composition with good abrasion resistance, fatigue resistance, and tensile properties (col.25, lines 26-36).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use such diene elastomer in the tire of Segatta et al. in order to produce tire with good abrasion resistance, fatigue resistance, and tensile properties, and thereby arrive at the claimed invention.

14. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segatta et al. in view of JP 09302146 as applied to claims 23-25, 29-31, 35, and 37 above, and further in view of Vanel (U.S. 6,211,278).

The difference between Segatta et al. in view of JP 09302146 and the present claimed invention is the requirement in the claims of covering agent.

Vanel, which is drawn to tire composition, disclose the use of covering agent that is alkoxyalkyl silane wherein the ratio of the amount of covering agent to the amount of silica is 0.01-0.2 (col.6, lines 55-66).

In light of the motivation for using covering agent in specific amount disclosed by Vanel as described above, it therefore would have been obvious to one of ordinary skill in the art to use such covering agent in Segatta et al. in order to produce tire wherein the silica are effectively dispersed, and thereby arrive at the claimed invention.

Response to Arguments

15. Applicant's arguments filed 12/54/05 have been fully considered but they are not persuasive.

Specifically, applicant argues that Segatta et al. is not a relevant reference against present claim 23 given that there is no disclosure in Segatta et al. that the amount of silica is greater than the amount of carbon black. Applicant argues that given that Segatta et al. disclose that silica is an optional ingredient used in amount of 5-25 phr and carbon black is utilized in amount of 30-60 phr, one of ordinary skill in the art would expect that the amount of carbon black would exceed that of silica. Applicants also point to the data set forth in Table 5 of the present specification in order to establish unexpected or surprising results.

However, while Segatta et al. disclose that the preferred amount of carbon black is 30-60 phr, a fair reading of the reference as a whole discloses the use of 20-200 phr carbon black. It is noted that "nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims", *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). Further, attention is drawn to col.6, lines 47-50 of Segatta et al. which discloses using mixture of carbon black and silica in

conventional amounts. Thus, when utilizing carbon black and silica in Segatta et al. in conventional amounts, it is clear that such amounts would include those wherein the amount of silica, i.e. 25 phr, is greater than the amount of carbon black, i.e. 20 phr.

With respect to the data set forth in Table 5, it is noted that the data compares composition comprising silica and carbon black within the scope of present claim 23, i.e. 30 phr silica and 15 phr carbon black, with composition outside the scope of present claim 23, i.e. comprising 15 phr silica and 15 phr carbon black. It is shown that composition of the present invention is superior in terms of elongation at break, hysteresis, and tearability.

However, it is the examiner's position that the data is not persuasive for the following reasons. Firstly, the data is not commensurate in scope with the scope of the present claims. That is, the present claims are drawn to pneumatic tire comprising in its bottom zone elastomeric filler mixture in the form of a profiled member or reinforcement profile. However, the data is drawn elastomeric filler mixture not tire. Further, the data is not persuasive given that the data does not compare present invention with that of the "closest" prior art. That is Table 5 compares composition comprising silica and carbon black within the scope of the present claims, i.e. 30 phr silica and 15 phr carbon black, with composition outside the scope of the present claims, i.e. comprising 15 phr silica and 15 phr carbon black. However, the comparative example utilizes 15 phr carbon black which is not only outside the scope of the present claims but also outside the scope of Segatta et al. which requires at least 20 phr carbon black. Thus, the data is not successful in establishing unexpected or surprising results over Segatta et al. given that the data does not compare present invention with the invention of Segatta et al.

With respect to present claim 29, applicant argues that there is no disclosure in Segatta et al. that silica is the sole reinforcing filler. However, in light of the open language of present claim 29, i.e. elastomeric filler mix “comprising”, it is clear that the claims are open to the inclusion of additional ingredients including carbon black.

Further, applicants point to the data in the present specification in order to establish unexpected or surprising results over the cited prior art.

The data compares composition within the scope of present claim 29, i.e. comprising silica alone (Test 13, Table 5), with composition comprising both silica and carbon black (test 14, Table 5). It is shown that presently claimed composition is superior in terms of elongation at break and tearability.

However, it is the examiner's position that the data is not persuasive for the following reasons. Firstly, the data is not commensurate in scope with the scope of the present claims. That is, the present claims are drawn to pneumatic tire comprising in its bottom zone elastomeric filler mixture in the form of a profiled member or reinforcement profile. However, the data is drawn elastomeric filler mix not tire. Further, the data is not persuasive given that there is not proper side-by-side comparison between composition comprising silica and composition comprising silica and carbon black. That is, the composition of Test 13 comprises more accelerator than the composition of Test 14. It is not clear what if any difference this would have on the composition. Thus, it is not clear if the difference between the compositions is due to the absence of carbon black or due to the presence of additional accelerator.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsuo (U.S. 5,929,157) discloses rubber composition comprising 100 parts diene rubber, 5-50 parts carbon black and 10-60 parts silica, however, the rubber composition is used in tire sidewall with no disclosure or suggestion that the composition is in the form of a profiled member which is located axially outside the upturn of the carcass reinforcement or in the form of a reinforcement profile for beads of the tire which is located radially above the bead wire as presently claimed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
2/18/06